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University / School Chulalongkorn University

Academic year 2019

Title of the project Sa-eab valley : Mosaic of land and life — Making resilient landscape and self sufficiency community

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TECHNICAL DOSSIER

Title of the project Sa-eab valley : Mosaic of land and life — Making resilient landscape and self-sufficiency
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Title of the course Bachelor of landscape architecture
Academic year 2019
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Written statement, short description of the project in English, no more than 250 words

Sa-eab is a valley in Phrae province, northern region of Thailand. The heterogeneous valley consists of several villages and various landscape structures such as mountain, foothill, lowland, and river and stream. Other than being a habitat for animals, Sa-eab valley also provides natural resources and ecosystem services which are the foundation for livelihood. Human creates and develops culture according to environmental conditions. However, modern-day short-sighted-economic development reduces the value of the land. Therefore, this proposal aims to make human and nature reconcile by restoring ecological and cultural landscape, enhancing rural green infrastructure, and educating the public about ecological, economic, and cultural values of the land which will create rural resilient landscape, self-sufficient and sustainable community. The locals' quality of life will be improved and the land will be able to adapt to change though climate change and external influences.

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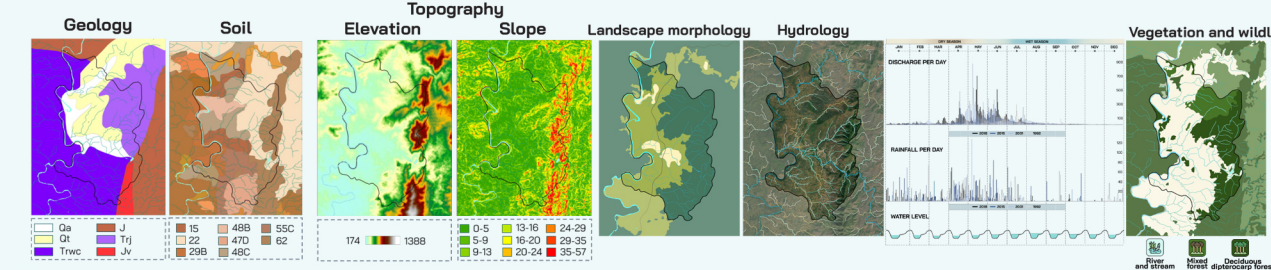


CLIMATE CHANGE AGAIN

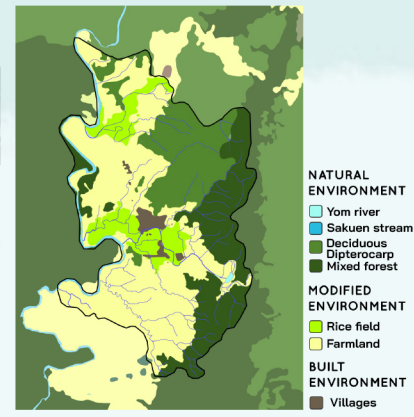
11th International Biennial Landscape Barcelona

Barcelona September 2020
SCHOOL PRIZE

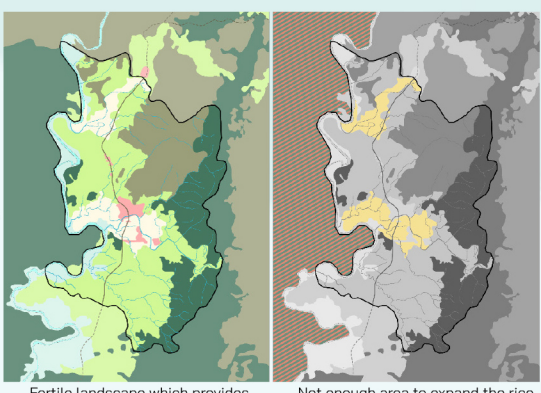
NATURAL ELEMENTS



Settlement ecology



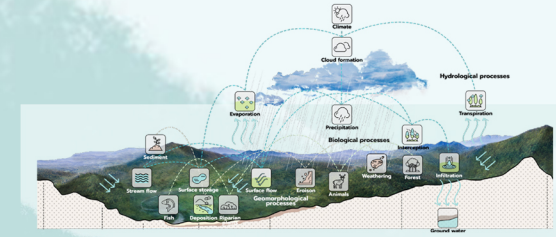
LANDSCAPE ASSESSMENT



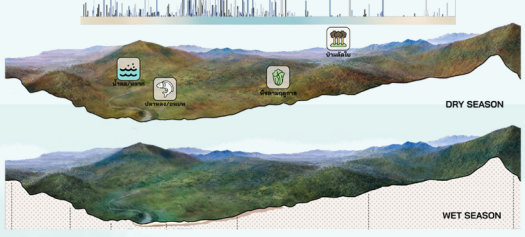
Fertile landscape which provides various ecosystem services, including strong sense of tradition, community, and livelihood.

Not enough area to expand the rice paddy and population growth is expected to decline.

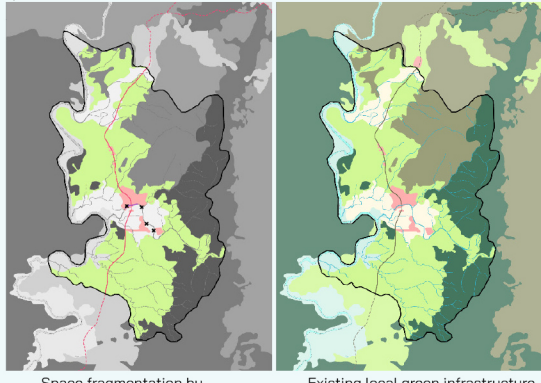
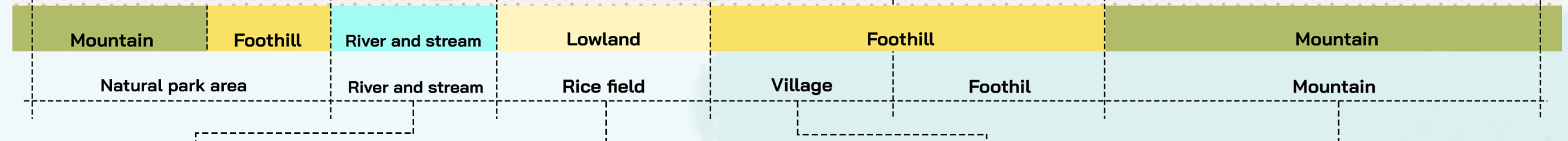
NATURAL PROCESSES



DYNAMIC OF NATURE



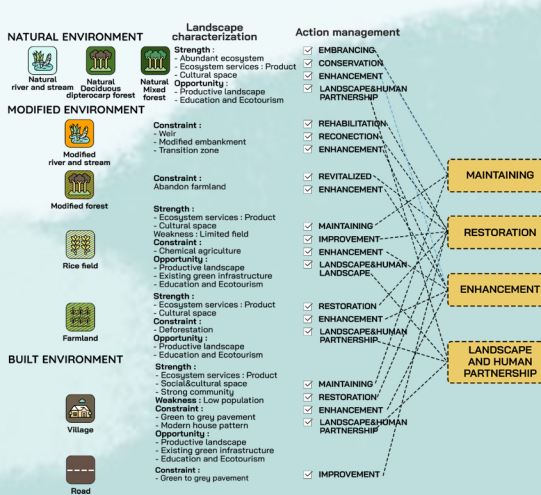
HUMAN LANDSCAPE



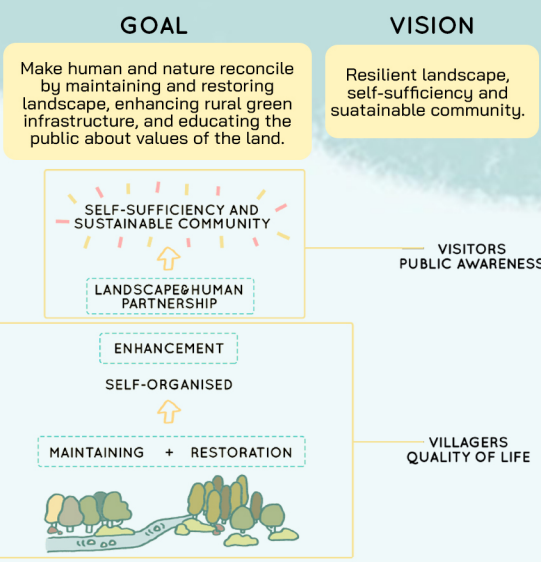
Space fragmentation by constructing the road through the village. It disconnects ecological and social-cultural flow of the land. Moreover, unsustainable development causes the decreasing of permeable and green spaces.

Existing local green infrastructure as Muang Fai (The local water management wisdom), Rain harvesting, or Home gardens are one of opportunities for planning in this project, as well as being productive landscape, and having potential to be education and community-based tourism network.

LANDSCAPE CHARACTERIZATION AND ACTION MANAGEMENT



PLANNING & DESIGN



River and stream

Cultural services
 River spiritual ceremony, Sacred places, River goddess worship, Traditional fishing

Provisioning services
 Water resource, Riparian plants, Vegetation, Aquatic animals

Regulating and Supporting services
 Dynamic and water cycle, Nutrient cycle, Hydrology flow, Aquatic ecosystem, Habitat

Yom river
 Sakuen stream

Agriculture: Rice field and farmland

Cultural services
 Sacred places, Rice traditional ceremony, Muang Fai system, Local food

Provisioning services
 Field crops, Rice, Fish

Regulating and Supporting services
 Nutrient cycle, Water cycle, Habitat

Rice field
 Farmland

Village

Cultural services
 Cultural customs, Vernacular house, Sacred places, Temple

Provisioning services
 Vegetation and fruit, Egg and meat

Regulating and Supporting services
 Nutrient cycle, Water cycle, Habitat, Green infrastructure

Village

Foothill and mountain

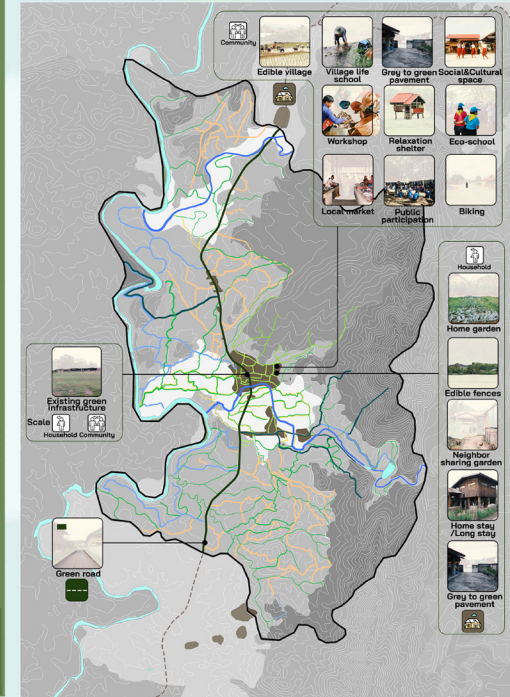
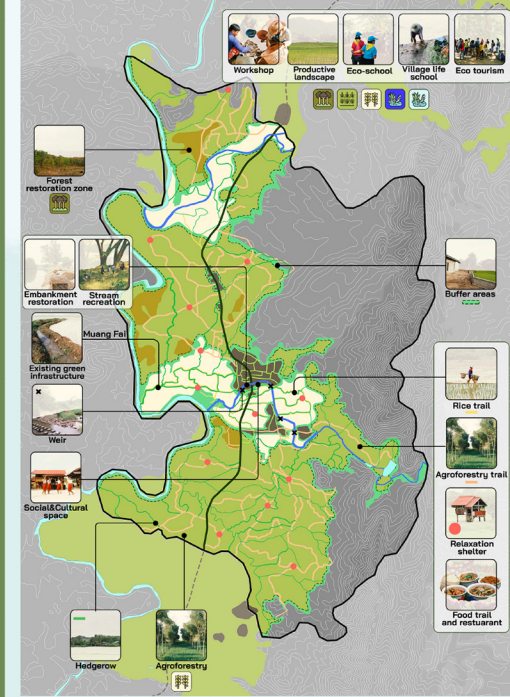
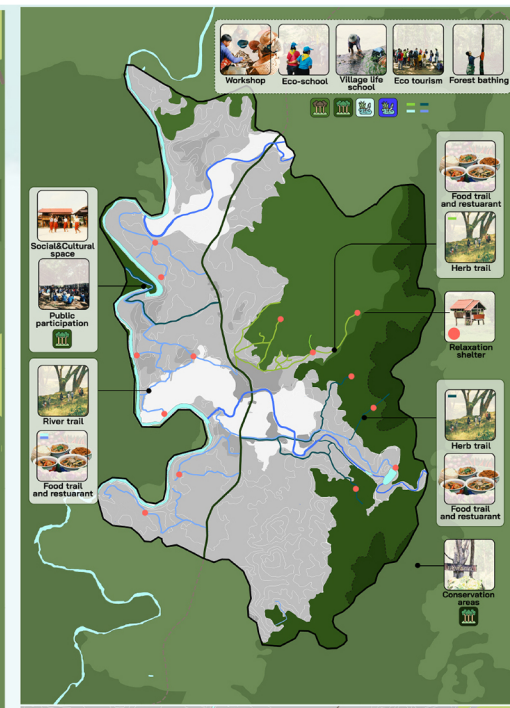
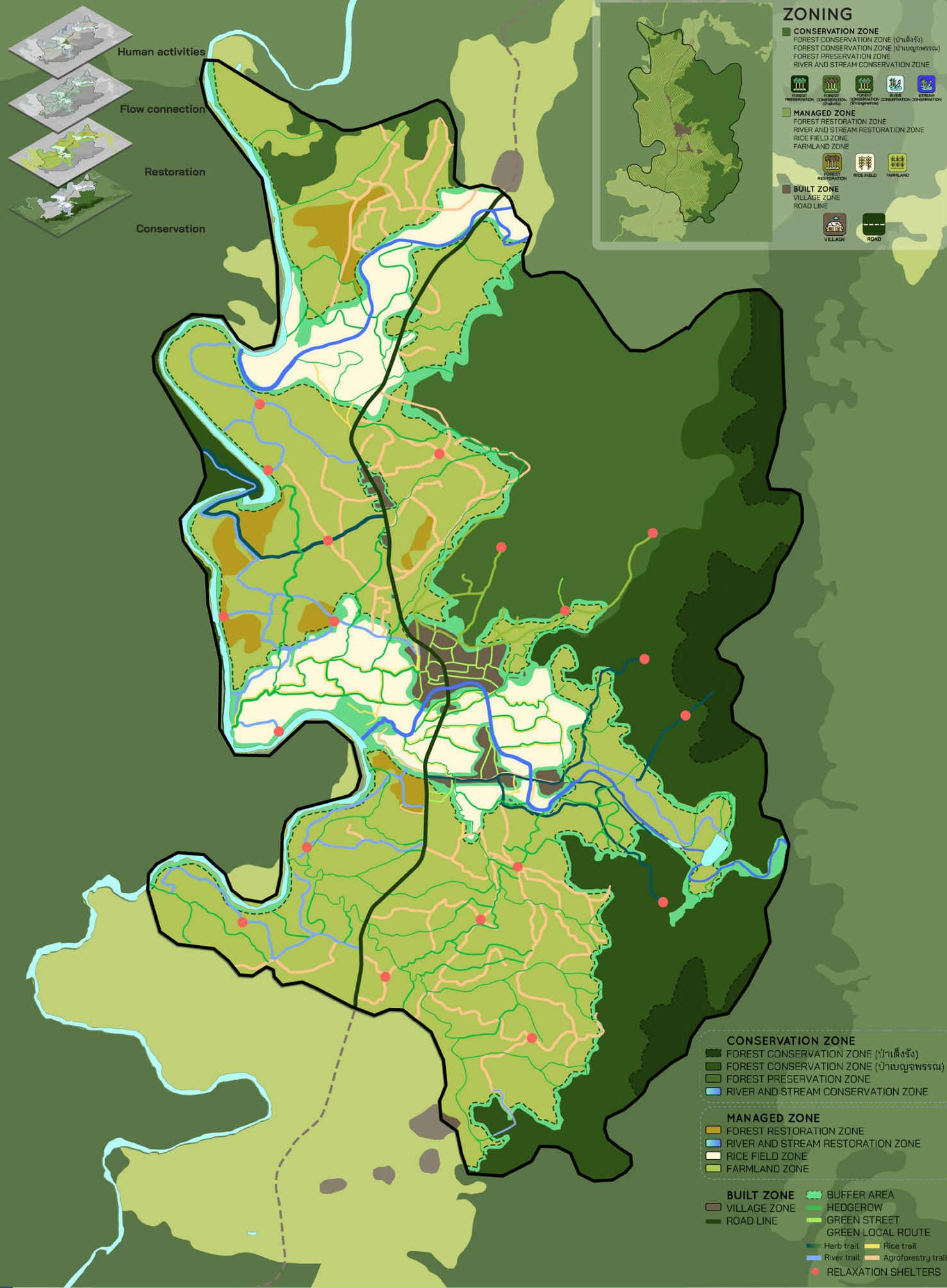
Cultural services
 Forest ceremony, Sacred places

Provisioning services
 Wood/Fiber, Herb, Vegetation, Animals

Regulating and Supporting services
 Nutrient cycle, Water cycle, Watershed forest, Habitat, Terrestrial ecosystem

Deciduous dipterocarp forest and mixed forest

RECONCILIATION MASTER PLAN



SUSTAINABLE DEVELOPMENT GOALS

CONSERVATION MOSAIC

FOREST CONSERVATION ZONE (ป่าสิ่งจริง)

ENHANCEMENT
 Herb trail, Relaxation shelter, Eco-school

PARTNERSHIP
 Village life school, Ecotourism, Food trail & Forest bathing restaurant

FOREST CONSERVATION ZONE (ป่าอนุรักษ์พรรณ)

ENHANCEMENT
 Herb trail, Relaxation shelter, Social & cultural space, Eco-school

MAINTAINING
 Preservation area

PARTNERSHIP
 Village life school, Ecotourism, Public participation, Forest bathing

RIVER AND STREAM CONSERVATION ZONE

MAINTAINING ENHANCEMENT
 Riparian setback, River trail, Relaxation shelter, Social & cultural space, Eco-school

PARTNERSHIP
 Village life school, Ecotourism, Food trail & restaurant, Rafting, Camping, Workshop

MANAGED MOSAIC

FOREST RESTORATION ZONE

RESTORATION
 Restoration area

RESTORATION
 Green corridor, Green patches

ENHANCEMENT
 Hedgerow, Buffer area, Agroforestry, Agroforestry trail, Relaxation shelter

RIVER AND STREAM RESTORATION ZONE

RESTORATION
 Buffer area, Embankment restoration, Weir restoration, Stream recreation

ENHANCEMENT
 Social & cultural space, Eco-school

PARTNERSHIP
 Village life school, Ecotourism, Food trail & restaurant, Relaxation shelter

RICE FIELD ZONE

MAINTAINING
 Existing green infrastructure, Productive landscape

RESTORATION
 Hedgerow, Buffer area

ENHANCEMENT
 Rice trail, Eco-school

PARTNERSHIP
 Village life school, Workshop, Ecotourism, Food trail & restaurant, Relaxation shelter

BUILT MOSAIC

VILLAGE ZONE

MAINTAINING
 Existing green infrastructure

RESTORATION
 Green corridor, Green patches

ENHANCEMENT
 Social & cultural space, Recreation shelter, Eco-school, Bike lane

PARTNERSHIP
 Temple-School-Local market connection, Sacred spaces

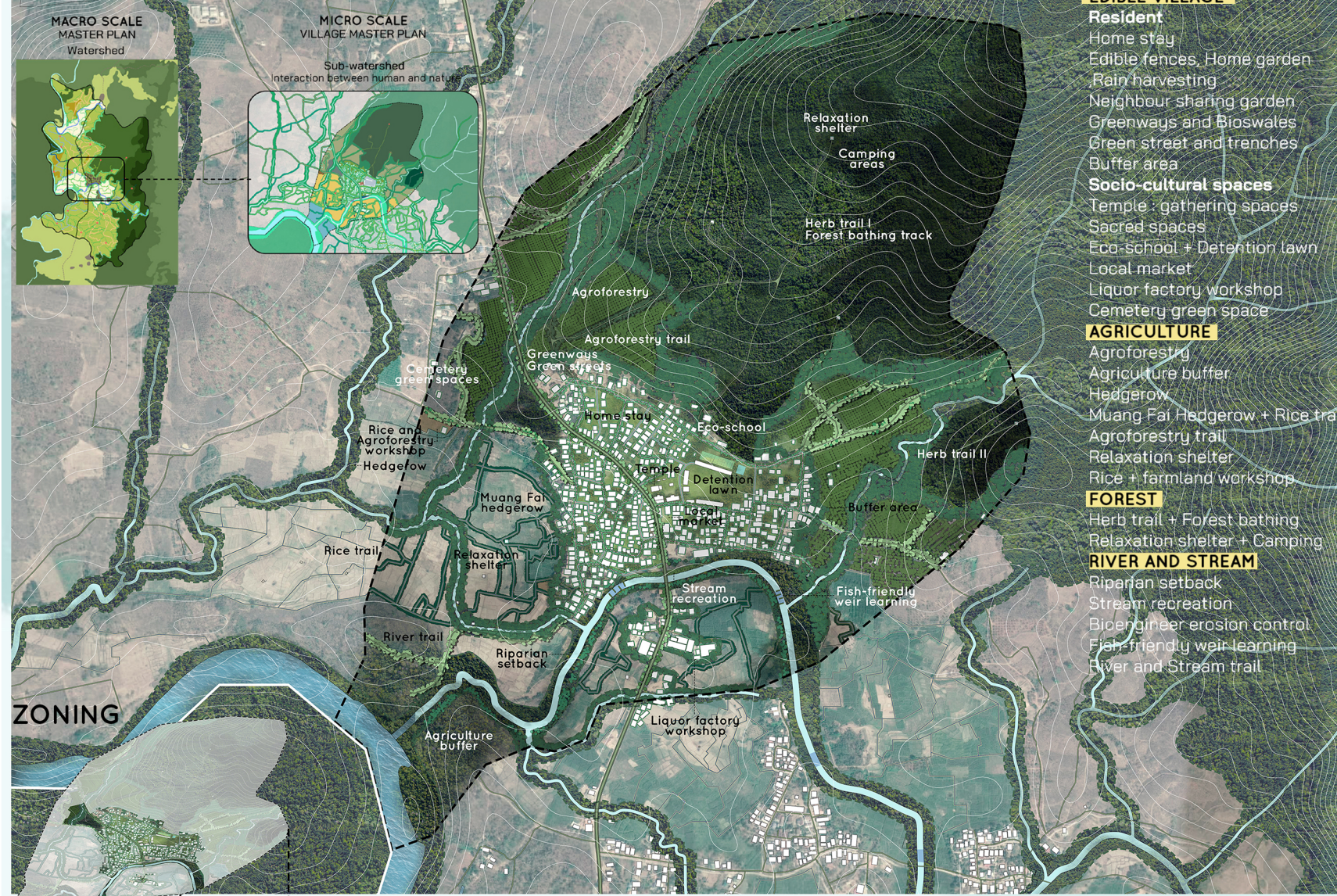
PARTNERSHIP
 Village life school, Public participation, Home stay/Long stay, Neighbor sharing garden, Workshop, Local market

ROAD LINE

RESTORATION
 Green road

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VILLAGE MASTER PLAN



EDIBLE VILLAGE

- Resident**
- Home stay
- Edible fences, Home garden
- Rain harvesting
- Neighbour sharing garden
- Greenways and Bioswales
- Green street and trenches
- Buffer area
- Socio-cultural spaces**
- Temple, gathering spaces
- Sacred spaces
- Eco-school + Detention lawn
- Local market
- Liquor factory workshop
- Cemetery green space

AGRICULTURE

- Agroforestry
- Agriculture buffer
- Hedgerow
- Muang Fai Hedgerow + Rice trail
- Agroforestry trail
- Relaxation shelter
- Rice + farmland workshop

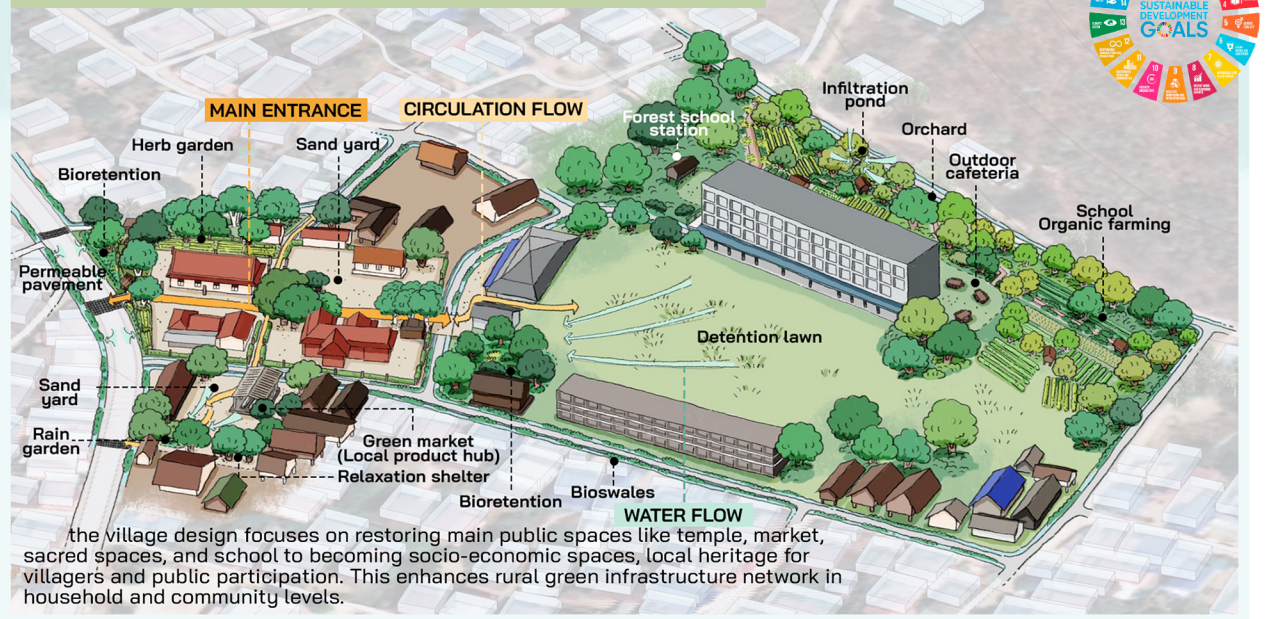
FOREST

- Herb trail + Forest bathing
- Relaxation shelter + Camping

RIVER AND STREAM

- Riparian setback
- Stream recreation
- Bioengineer erosion control
- Fish-friendly weir learning
- River and Stream trail

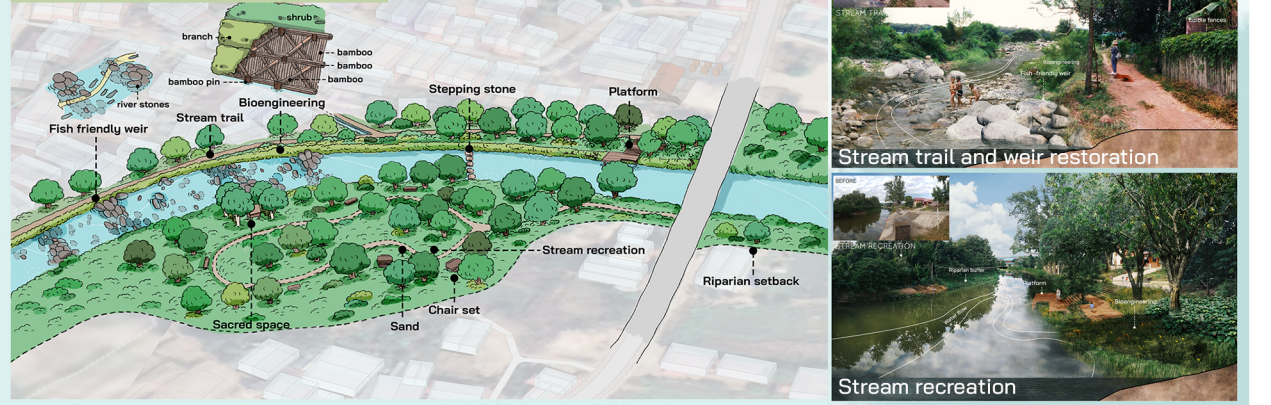
VILLAGE ZONE TEMPLE-MARKET-SCHOOL CONNECTION



The village design focuses on restoring main public spaces like temple, market, sacred spaces, and school to becoming socio-economic spaces, local heritage for villagers and public participation. This enhances rural green infrastructure network in household and community levels.



VILLAGE ZONE STREAM CORRIDOR



Making the stream corridor to becoming an ecological recreation, restoration is the key action. The design is to define the riparian setback to preserve the biodiversity. Using river stones as a material to restore the weir instead of concrete allows natural flows of fish and water. Also, the bioengineerings are made of local materials like bamboos.



This project has the expectation of reconciling and harmonizing human to live with nature, maintaining biodiversity of highly complex ecosystem, improving quality of villagers' life, as well as being cultural and natural resources for learning and ecotourism for public awareness. Sa-eab valley project can be an illustrative model for rural landscape development in a sustainable way, being the objective which will make a rural resilient landscape and self-sufficiency community for the future.

AGRICULTURE ZONE RICE FIELD AND FARMLAND

